

## AIDKEEPER<sup>™</sup> and its Inventor, Calvin Huit

I'm a Coeur d'Alene born Idaho native that graduated from the College of Idaho in 1988 with a major in Mathematics. For eight and a half years I worked for the Department of Labor as a Senior Econometric Analyst before joining the IT staff at Idaho State Department of Agriculture seventeen years ago. During the last three years, I have been an IT Resource Manager supervising all software development staff while also being solely responsible for the development and maintenance of 15 or more custom software applications. I recently became the manager over all IT staff and computer systems, which added the responsibilities of the computer network, phone system, and help desk.

Hearing loss is common in my family. I suffered many ear infections as a child and, because we were poor, most went untreated. My teenage years were spent growing up on a farm in the Nampa area working farm equipment, welding, and fabricating metal without ear protection. Playing the trumpet for thirty years perhaps also contributed to my hearing impairment.

I remember being frustrated not being able to hear my college professor in Boone 102, in part because of the loud noise created by the HVAC system. I did not realize the extent of my hearing loss then, but I now wonder how much easier college would have been if I had been able to hear.

An acute awareness of my hearing loss came one night after spending forty-five minutes suffering through Micron PC's phone-based help system before being unable to hear and understand the options, and was forced to hang up. Marriage also manifested the extent of my hearing loss as the top half of the human vocal range are my most impacted frequencies. I have profound hearing loss, and have used hearing aids for twenty years.

My personality has been greatly affected by my hearing impairment. It's impossible to engage in conversation when more than one person is talking and it is very nerve-racking. Many people think I'm rude when, if I'm not looking directly at them and not able to read their lips, I start speaking without realizing that someone else is already talking.

Hearing loss warps a person's knowledge of conversation etiquette. So much effort is expended trying to understand what is being said that it diverts the ability to provide appropriate responses or observe conversation dynamics. It's easier and less embarrassing to disengage and be less assertive in a conversation of interest, than to engage only to find out the conversation differed from what you had perceived and that your contributions were actually unwanted. I often mispronounce words – I say them like I hear them, and my spelling suffers as a result.

I don't hear the lyrics of songs. I avoid listening to the radio as I can't see lip movement to mentally make sense of the sound. Movie watching is a real challenge; even with hearing aids I miss at least half of what is said. I've learned to avoid shows with background music, because I get so frustrated and irritated trying to hear what is being said over the music, that any enjoyment or interest of watching is lost. I wish they would offer editions of DVD's without background music!

My wife is always reflecting on past conversations; many times I have no recollection that they included particular details.

For an experiment, try going to a play wearing noise cancelling ear phones or ear plugs -- if you could only understand one of every ten words spoken, how enjoyable would that play be?

Our social culture is so incredibly connected to our ability to hear ...

### **About Hearing Aids:**

Insurance will pay for prescription eye glasses and even birth control, but not a penny for hearing aids. I usually try to get a higher quality aid, as I am dependent on them to interact with people to do my job. You can find older model/technology aids for less money, usually for \$2,500 or less a pair, but the high-end models cost as much as \$10,000 a pair, all out-of-pocket.

Two common types of hearing aids are In-The-Ear (ITE) and Behind-The-Ear (BTE).

Hearing aid manufacturers promote BTE type aids through audiologists because they are cheaper to manufacture and maintain. The microphone of the BTE is located behind the ear, so noise behind you commonly overrides the conversation in front of you.

I prefer the ITE as they take advantage of the natural acoustics of the ear, and don't interfere with my reading glasses. In fact, the best sounding hearing aid, in my opinion, is the In-The-Canal (ITC) model that is inserted close to the ear drum and takes the most advantage of ear acoustics. However, ITC aids are more subject to damage from ear wax and body moisture, so they are not for everyone.

The industry has created a newer type hearing aid, kind of a hybrid of the BTE and ITC, where the microphone is in the ear (thus known as Receiver-In-Canal or RIC) while the computer of the hearing aid is located behind the ear, as if a BTE aid. The RIC aid provides an excellent sound quality without being subject to as much risk of wax or body moisture damage.

### **To wear or not to wear:**

The industry has consistently instructed hearing aid wearers that hearing aids should never be taken out of the ear during the day. This is in part because when a person gets hearing aids for the first time, the volume is overwhelming, and it takes up to 6 months for the brain to make the appropriate adjustments to manage and make sense of the noise. In many cases this is not a pleasant experience for the consumer.

It is also because a manufacturer's measurement of success, both financially and as an industry leader, is directly linked to having more people use their hearing aids more often for longer periods of time. However, the more active the individual, and the more hostile the wearer's environment, the less desirable it is to keep the hearing aid in the ear throughout the entire day. Consider:

- You are in a hotel room, trying to prepare for a very important meeting, while the loudest, most obnoxious party is going on in the adjacent rooms. If it was in your power to turn off the noise, what would you do?
- A farmer or equipment operator has no need to increase the sound volume of the tractor or equipment.
- Who wants to amplify the noise of hair clippers when getting a haircut, or expose the aids to potential damage?
- Does a person really need to listen to the loud jet engine sound that results from the wind hitting the hearing aid microphone on a windy day or when the car window is rolled down?
- The fishermen, river-rafters, boaters, and swimmers have no interest in ruining or losing their expensive hearing aids.
- No one with hearing aids has a desire to continue wearing them when the batteries are spent and they don't have extras.
- What does a person do with their hearing aids when their ear is irritated or when dealing with a sinus issue, ear infection, wound, or headache?

To the hearing impaired, relaxation and sound are polar opposites. Removing hearing aids, when not needed or when unwanted noise exists is one of many effective techniques that can be used by the hearing impaired to manage stress.

The comfort zone for noise with regard to both frequency and volume shrink with hearing loss: noise tolerable before hearing loss can bring a person to their knees after the loss, as hearing is tied to the nervous system. Sensitivity to hearing aids increase when a person's nerves are incited: a person under stress may be tempted to leave their hearing aids at home, especially if there is no special need for hearing that day.

However, even when there is a valid reason to remove the hearing aids, some people are so fearful of losing or damaging their expensive hearing aids that they will not take them out of their ears.

The cost of hearing aids, social influences, and the slow pace of the industry to understand the hearing-challenged market is evident, as the "... market for hearing aids is very large and has substantial unmet needs. Industry researchers estimate that approximately ten percent of the population suffers from hearing loss, but only about two percent actually use hearing aids."<sup>1</sup>

#### **The hearing aid market:**

"It is reported that 10.8 million hearing aids were sold in 2012: forty-five percent of the hearing aids were sold in Europe, twenty-nine percent in North America, and twenty-six percent in the rest of the

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<sup>1</sup> [http://www.wikininvest.com/stock/Sonic\\_Innovations\\_%28SNCI%29/Hearing\\_Aid\\_Market](http://www.wikininvest.com/stock/Sonic_Innovations_%28SNCI%29/Hearing_Aid_Market)

World.”<sup>2</sup> That means there were approximately 3,132,000 new hearing aids sold in North America in 2012. Not everyone purchasing hearing aids need two, so we can conservatively say that at least 1,566,000 North American people purchased hearing aids in 2012. We can only guess how many people already own aids.

Recent research also shows that the average age of a first-time hearing aid purchaser is decreasing. Five years ago a person purchasing hearing aids for the first time was approximately seventy-five years old. Today, in part relating to the baby-boom generation, it’s closer to sixty-five. This trend is expected to continue. As a result, consumer expectations are also in a state of change.

### AIDKEEPER<sup>TM</sup> ‘s Genesis:

Two costly hearing aid disasters greatly affected me in the spring of 2013. The first incident involved a shirt with a hearing aid in the pocket being placed in the washing machine. The second incident happened three weeks later at a local car wash where, when vacuuming out the car, the vacuum somehow found its way into my coat pocket (while I was distracted trying to keep the car door from hitting the concrete vacuum platform), and sucked both aids out of the manufacturer’s case where they were being stored, culminating in the case being flipped behind the car’s tire only to be driven over and crushed – the realization and impact of which was devastating!

The aid cases on the market and provided by the aid manufacturers when you purchase hearing aids are cheap plastic clamshell designs that are not water-proof, crush resistant, or small enough to fit in your pocket. Audiologists pay about \$1.50 each for spares. I like to liken this to purchasing a \$140,000 car only to find it comes with four ugly smaller sized 45 mile-per-hour max speed spare tires installed (like the one in the trunk intended to be used in an emergency) instead of high performance tires with mag wheels. Given the cost of hearing aids, you’d think someone would see the need, break the paradigm, and come up with something better.

My efforts searching for a convenient portable hearing aid management system came to a dead-end after about 15 years searching the internet and questioning my audiologist for a solution that met my needs. Waiting for someone else to create a more usable solution was becoming **very** expensive.

After talking around, it became apparent I was not the only hearing-challenged person seeking such a solution. I decided that if a really good product could be developed, it would be well received by the intended consumer demographic. This was my chance to create a product not yet realized or perceived as being important by the industry.

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<sup>2</sup> <http://hearinghealthmatters.org/hearingnewswatch/2013/research-firm-analyzes-market-share-retail-stores-prospects-of-major-hearing-aid-makers/>

Even with great products, there is a fear of failure; but I believe fear and its many negative consequences are “the tax of unbelief.” Fear has torment and is destructive by nature. It was time for the AIDKEEPER<sup>TM</sup>.

#### AIDKEEPER<sup>TM</sup> Timeline:

- I began thinking about my product in late June, 2013.
- By January, 2014 I had met with a patent attorney who performed a patent search to make sure I was not infringing on someone else’s patent
- In March, I was awarded a provisional (or temporary) patent.
- Within a week the drawings, abstract, and related research was submitted for market analysis.
- I met with my prototyping engineer Tony at Inventure Engineering, LLC during the first part of April
- By September I had the “Alpha” product in hand.
- I met with my patent attorney again in October to apply for a non-provisional USA patent, and to begin the paperwork for international patenting through the Patent Cooperation Treaty (PCT), which currently involves 148 countries. I also trademarked AIDKEEPER<sup>TM</sup>
- In November I received fifty “Beta” products, which were used to market the product to audiologists and Consulted an accountant
- By December we were establishing an LLC, seeking a merchant number, and a web security certificate (SSL). We also commenced the development of a web site, the absence of which was the only thing keeping us from accepting pre-manufacturing orders.
- The plan is to take pre-manufacturing orders until February 16<sup>th</sup>, and have product available within 12-14 weeks later.

You can access my website by going to [www.aidkeeper.com](http://www.aidkeeper.com) , [www.HearingAidCase.com](http://www.HearingAidCase.com) , or [www.HearingAidContainer.com](http://www.HearingAidContainer.com) .

#### AIDKEEPER<sup>TM</sup> Products:

ITE and ITC cases are named after Idaho rivers, while the BTE cases (yet to come) will be named after Idaho lakes. The first AIDKEEPER<sup>TM</sup> products are called the Clearwater (two aid model) and the Jarbridge (single aid model).

The Clearwater and Jarbridge models are invaluable to people with an active lifestyle as they can lose or damage their hearing aids through participation in water sports, hiking, working, or vacationing. The cases also protect hearing aids from curious pets, being crushed under a rocker, or when accidentally placed in the washing machine!

The Clearwater and Jarbridge models come with three different sized liners to accommodate different sizes of hearing aids. They are also usable for many behind-the-ear hearing aids.

The Clearwater and Jarbridge are currently manufactured in the Treasure Valley, providing Idahoans with jobs.

Normal retail pricing is \$150.00 for the Clearwater and \$115.00 for the Jarbridge, however, pre-manufacturing/introduction orders, accepted through February 15<sup>th</sup>, 2015, will be discounted at \$127.50 for the Clearwater and \$100.00 for the Jarbridge.

### CLEARWATER AND JARBRIDGE FEATURES

- Sleek, light weight, and Elegant
- Machined, not molded
- Provides spare battery management
- Padded hearing aid chambers
- Colored to indicate left and right aid compartments
- Rugged and Durable
- Crush Resistant and Water Proof
- Electricity Independent
- Made with recyclable materials



